



Potential for Contamination An Emerging Picture

In the weeks after the March 11 disaster, Toxic Watch Network compared PRTR data against flood maps to derive a preliminary list of reporting facilities that were likely inundated by the tsunami.²² This map shows the 130 such facilities identified by Toxic Watch Network in the upper Tohoku region. It does not include all potentially affected facilities—for instance, those in the lower Tohoku region or those in the Kashima industrial complex, located in the neighboring Kanto region.

Under PRTR regulations companies must report how much of 462 priority hazardous chemicals they release or transfer each year. However, the PRTR applies only to companies with more than 20 workers; smaller companies are not required to submit data even if they handle large amounts of reportable chemicals. Companies also are not required to report chemicals that are stored but not released or transferred.

The list below indicates the types of industries housed at the mapped facilities as well as chemicals reported to have been released or transferred in 2008 (the most recent data available). This does not necessarily mean these chemicals were released during the Tohoku disaster. But it does sketch a rough outline of the potential for contamination in this area.

Facilities are grouped geographically.

1-24: Plastic products, petroleum and coal products, transportation equipment, ferrous and nonferrous metals, ceramics, stone and clay products, paper and pulp processing, industrial waste disposal, vehicle maintenance; metal plating; ship building and repair; harbor transport; landfill
Chemicals: Acetonitrile, acrylonitrile, acrylic acid, acrylic amide, antimony and its compounds, asbestos, benzene, bisphenol A epoxy resin, boron and its compounds, *n*-butyl methacrylate, chloroform, chromium and trivalent chromium compounds, cobalt compounds, water-soluble copper salts (excluding complex salt), cyclohexylamine, dioxins, ethylbenzene, ethylene glycol, ethylenediaminetetraacetic acid, formaldehyde, hydrazine, hydrogen fluoride and its water-soluble salts, lead and its compounds, manganese and its compounds, methacrylic acid, methyl methacrylate, molybdenum and its compounds, monomethyl ether, nickel and its compounds, nonylphenol, phenols, toluene, 1,3,5-trimethylbenzene, xylene, water-soluble compounds of zinc

25-26: Ship building and repair, national oil reserve bases
Chemicals: Benzene, bisphenol A epoxy resin, chromium and trivalent chromium compounds, hexavalent chromium,

ethylbenzene, lead, manganese, molybdenum and its compounds, nickel and its compounds, nonylphenol, toluene, xylene

27-28: Chemicals, glue
Chemicals: Boron and its compounds, formaldehyde, manganese and its compounds

29-33: Machinery, styrene, metal products, plastic products
Chemicals: Nickel compounds, styrene, water-soluble compounds of zinc

34: Ship building and repair
Chemical: Styrene

35-37: Food manufacturing, incineration plant, petroleum and coal products
Chemicals: Chlorodifluoromethane, dioxins, ethylbenzene, ethylene glycol, toluene, 1,3,5-trimethylbenzene, xylene

38: Electronics
Chemicals: Chromium and trivalent chromium compounds, nickel and its compounds, silver and its water-soluble compounds

39-53: Car maintenance, chemicals, paper products, electronics, plastic products, timber and wood products, ceramics, stone and clay products, steel, industrial waste disposal and recycling, military base,

ship building and repair, fuel wholesale and distribution
Chemicals: benzene, bisphenol A epoxy resins, boron and its compounds, bromomethane, water-soluble copper salts (excluding complex salt), cyclohexylamine, dioxins, ethylbenzene, ethylene, ethylene glycol, ethylene glycol ethyl ether, formaldehyde, hydrogen fluoride and its water-soluble compounds, lead and its compounds, manganese and its compounds, nickel compounds, *di-n*-octyl phthalate, toluene, 1,3,5-trimethylbenzene, xylene

54: Onagawa nuclear power plant
Chemicals: Asbestos, dichloropentafluoropropane

55-91: Chemicals, ceramics, stone and clay products, ferrous and nonferrous metals, metal products, plastic products, rubber products, electronics, paper and pulp processing, petroleum and coal products, transportation equipment, coatings, power generation, railyards, industrial waste disposal, industrial laundry, oil refineries, printing, metal plating, mechanical, equipment, and vehicle repairs, petroleum products wholesale and distribution
Chemicals: Asbestos, benzene, bis(2-ethylhexyl) phthalate, bisphenol A epoxy resins, boron and its compounds, butyl benzyl

phthalate, *di-n*-butyl phthalate, chlorodifluoromethane, chromium and trivalent chromium, cobalt and its compounds, water-soluble copper salt (excluding complex salt), dichloromethane, dioxins, ethene, ethylbenzene, ethylene glycol, hydrazine, hydrogen fluoride and its water-soluble salts, lead and its compounds, manganese and its compounds, molybdenum and its compounds, piperazine, polyoxyethylene alkyl ethers, silver and its water-soluble compounds, tetrachloroethylene, toluene, 1,3,5-trimethylbenzene, xylene

92-107: Precision machinery, asbestos products, metal products, timber and wood products, ceramics, stone and clay products, chemicals, tires and rubber products, paper and pulp processing, electronics, industrial waste disposal, printing, fuel sales
Chemicals: Acrylic acid, acrylonitrile, adipic acid, asbestos, bis(2-ethylhexyl) phthalate, chloroform, hexavalent chromium compounds, cobalt and its compounds, cresol, inorganic cyanides, dichloromethane, *N*-(*N,N*-dimethylamino) ethyl acrylamide, *N,N*-dimethylformamide, dioxins, epichlorohydrin, ethylbenzene, maleic anhydride, methyl methacrylate, *p*-octylphenol, styrene,

1,3,5,7-tetraazatricyclo(3.3.1.1(3,7)decane, organic tin compounds, toluene, xylene

108: Rubber
Chemical: Toluene

109-130: Transportation equipment, ferrous and nonferrous metals, chemicals, rubber, electronics, paper and pulp processing, livestock hygiene service center, thermal power generation
Chemicals: Acetonitrile, aniline, *o*-anisidine, bis(2-ethylhexyl) phthalate, bisphenol A epoxy resins, cadmium and its compounds, carbon disulfide, *o*-chloroaniline, chromium and trivalent chromium, hexavalent chromium compounds, cobalt and its compounds, cyclohexylamine, 1,2-dichloroethane, dichloromethane, *N,N*-dimethylformamide, dioxins, diphenylamine, ethylbenzene, ethylene glycol, formaldehyde, hydrazine, hydrogen fluoride and its water-soluble compounds, lead and its compounds, methylbenzene, molybdenum and its compounds, nickel, *p*-phenetidine, *o*-phenylenediamine, phthalic anhydride, polyoxyethylene alkyl ethers, styrene, toluene, *o*- and *p*-toluidine, trichloroethylene, 1,3,5-trimethylbenzene, xylene, water-soluble compounds of zinc